

March 2012

# NAVY SMALL BOATS

## Maintenance Report Addressed Most Directed Elements, but Additional Information Needed



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## NAVY SMALL BOATS

### Maintenance Report Addressed Most Directed Elements, but Additional Information Needed

#### Why GAO Did This Study

The Navy has noted that successful execution of its maritime strategy requires the acquisition of not only surface combatants, but also small boats. The Navy reported that it received about \$135 million in fiscal year 2010-2012 base procurement funding for small boats. These small boats vary widely in the missions they perform, their sizes, and the approaches for their maintenance. The House Armed Services Committee directed the Navy in House Report 112-78 to conduct a study on strategies to reduce maintenance and repair costs associated with small boat storage and harboring and to submit a report to the House and Senate Armed Services Committees on its findings by October 31, 2011. The committee directed GAO to assess the Navy's report for completeness, including the methodology used in the Navy's analysis. For this report, GAO evaluated the extent to which (1) the Navy's report addressed the committee's direction and (2) the findings in the Navy's study are supported by the data and information examined. GAO analyzed study documents and the business case analysis, obtained and analyzed key documents, and interviewed cognizant officials.

#### What GAO Recommends

GAO recommends that the Navy collect and include more complete information when evaluating future investment decisions at individual locations. DOD concurred with the recommendation.

#### What GAO Found

The Navy report addressed four of the five elements specified in House Report 112-78, while partially addressing one of the five elements. The Navy report addressed the potential for reducing maintenance and repair costs for the Navy's small boat fleet by using advanced boat lifts, and it addressed recommendations regarding the potential establishment of improved boat corrosion control and prevention as key performance parameters. The Navy report partially addressed the committee's direction to include an evaluation and business case analysis of the impact of advanced boat lifts for potential improvements to small boat acquisition costs and life-cycle sustainment. The report's business case analysis evaluated potential improvements to life-cycle sustainment, focusing on potential maintenance cost savings associated with boat lifts. However, this business case analysis did not evaluate the impact of the use of advanced boat lifts on potential improvements to small boat acquisition costs. Navy officials told GAO that the use of advanced boat lifts would not significantly contribute to extending the service life of the boats or produce any other additional benefits that would lead to reduced small boat acquisition costs. This is primarily because a critical feature of current procurement strategies is to select, specify, or design boats that are made from corrosion-resistant materials and use components that are corrosion resistant. Nonetheless, the Navy did not include this justification in the report or analyze the potential effects of the use of boat lifts on small boat acquisition costs in the report's business case analysis.

While the Navy completed a business case analysis of the impact of reduced maintenance and repair costs for the Navy's small boat fleet through the use of advanced boat lifts, GAO found several areas in which more complete information could have been included to better support the findings of the Navy study. The April 2011 *DOD Product Support Business Case Analysis Guidebook* provides standards for the DOD business case analysis process used to conduct analyses of costs, benefits, and risks. GAO identified several areas in which more comprehensive information, consistent with the DOD guidebook, could have been included in the Navy's business case analysis. For example, the Navy did not include (1) actual lift installation and maintenance cost data or (2) qualitative data on other potential costs and benefits associated with the use of boat lifts, particularly location- and mission-specific benefits, from Navy installations that are using 72 recently acquired boat lifts. The DOD guidebook indicates that authoritative data sources—those used to conduct the financial and nonfinancial analysis for a business case analysis—should be comprehensive and accurate. Navy officials recognized that more comprehensive information would have been useful, but noted that they were unable to systematically survey all current boat lift users within the few months they had to complete their business case analysis. The Navy noted in its report that a significant number of boat lifts have recently entered service in the fleet and that the Navy will monitor service experience, data that may provide a basis for future decisions regarding the use of boat lifts. Without more complete information, the Navy may not be fully informed when it considers making future investments in boat lifts or other storage and harboring techniques at individual locations.

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## **Abbreviation**

DOD Department of Defense

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United States Government Accountability Office  
Washington, DC 20548

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March 13, 2012

The Honorable Carl Levin  
Chairman  
The Honorable John McCain  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Howard P. McKeon  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Navy has noted that successful execution of its maritime strategy requires the acquisition of not only surface combatants, such as cruisers and destroyers, but also numerous high-performance small boats. To that end, the Navy is investing millions of dollars to acquire small boats to meet emerging fleet, antiterrorism, and force protection needs and to support ongoing operations. The Navy reported that it received about \$135 million in fiscal year 2010-2012 base procurement funding for small boats. These small boats vary widely in the missions they perform, their sizes, the materials of which they are composed, their locations, and the approaches for their maintenance—including corrosion prevention measures. In the current constrained fiscal environment, the Department of Defense (DOD) must maximize its investment in small boats and reduce maintenance and repair costs where appropriate.

In House Report 112-78, accompanying the House bill for the National Defense Authorization Act for Fiscal Year 2012 (H.R. 1540), the House Armed Services Committee directed the Navy to conduct a study on strategies to reduce maintenance and repair costs associated with small boat storage and harboring and to submit a report to the House and Senate Armed Services Committees on its findings by October 31, 2011.<sup>1</sup> The study was to include an evaluation and business case analysis of the

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<sup>1</sup> See H.R. Rep. No. 112-78, at 105-06 (2011).

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impact that certain strategies, such as the use of advanced boat lifts, would have on potential improvements to small boat acquisition costs and life-cycle sustainment. The Navy's report was to include recommendations on the potential establishment of improved boat corrosion control and prevention through various means.<sup>2</sup> In the House report, the committee also directed GAO to assess the Navy's report for completeness, including the methodology used in the Navy's analysis. For this report, we evaluated the extent to which (1) the Navy's report addressed the committee's direction and (2) the findings in the Navy's study are supported by the data and information examined.

To determine the extent to which the Navy's report addressed the committee's direction, we analyzed House Report 112-78 to identify each element of the committee's direction for the Navy report. We developed an evaluation tool based on House Report 112-78 to assess the extent to which the Navy's report addressed these elements. Using scorecard methodologies, two GAO analysts independently evaluated the Navy report against the elements specified in the House report. After the two analysts had completed their independent analyses, they compared the two sets of observations and discussed and reconciled any differences. We also interviewed Navy subject matter experts to obtain additional information and corroborate the statements made in the Navy report, and we obtained the officials' opinions of our assessments.

To determine the extent to which the findings in the Navy's study are supported by the data and information examined, we reviewed the study and obtained information on the objectives, scope, and methodology officials used to conduct it. We evaluated the Navy study's business case analysis using criteria found in the *DOD Product Support Business Case Analysis Guidebook*, which provides standards for the DOD business case analysis process as well as generally acceptable economic methodologies.<sup>3</sup> We reviewed the Navy's study to determine the extent to which the Navy incorporated elements of the DOD guidebook into the planning, design, and execution of the study. We also obtained and analyzed key data sources, such as maintenance cost savings inputs and

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<sup>2</sup>The Navy delivered Naval Sea Systems Command, *Report to Congress: Study on Small Boat Maintenance Costs* (October 2011), to Congress on October 31, 2011.

<sup>3</sup>Department of Defense, *DOD Product Support Business Case Analysis Guidebook* (April 2011).

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boat lift cost data, for information included in the study. We interviewed officials from the Office of the Deputy Assistant Secretary of the Navy for Ships, Naval Sea Systems Command, and the Naval Surface Warfare Center to obtain their views on key aspects of the study, findings and conclusions, and any limitations that may have affected the study's findings. We assessed the reliability of the data we analyzed by reviewing existing documentation related to the data sources and interviewing knowledgeable agency officials about the data that we used. We found the data sufficiently reliable for the purpose of evaluating the planning, design, and execution of the Navy's business case analysis.

We conducted this performance audit from November 2011 to March 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We discuss our scope and methodology in more detail in appendix I.

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## Background

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### Small Boat Inventory and Responsibilities

Navy boats are self-propelled craft, suitable primarily to be carried on board ships and to operate in and around naval activities.<sup>4</sup> As of November 2011, there were 2,872 small boats in the Navy's inventory and 58 different types of small boats, varying in length from 16 feet to over 200 feet, with expected service lives ranging from 7 to 12 years. Small boat types include rigid inflatable boats, riverine command boats, riverine assault boats, force protection boats, fleet harbor security boats, and unmanned craft.<sup>5</sup> These small boats vary widely in the missions they

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<sup>4</sup>Office of the Chief of Naval Operations Instruction 4780.6E, *Policy for Administering Service Craft and Boats in the U.S. Navy* (Jan. 25, 2006).

<sup>5</sup>The *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (Nov. 8, 2010; amended Jan. 15, 2012), defines riverine as an inland or coastal area comprising both land and water characterized by limited land lines of communication. The boats are used in operations conducted by forces organized to cope with and exploit the unique characteristics of a riverine area to locate and destroy hostile forces, achieve control of the area, or both.



perform, which include maritime interdiction, antiterrorism, force protection, and oil spill response operations, as well as riverine operations in Iraq. Table 1 provides the inventory and mission descriptions for various types of Navy small boats. Appendix II contains photographs of selected Navy small boats.

**Table 1: Overview of Navy Small Boat Inventory as of November 2011**

Boat type	Number in inventory	Description
Amphibious landing boats	79	Landing craft to bring troops, tanks, trucks, supplies, and equipment to and across the beach
Dive boats	117	Used for tethered diving operations and scuba operations
Oil spill response boats	366	Oil skimmers, platform boats, and utility boats for the oil spill response program
Rigid inflatable boats	966	Standard ship's boats and others used for various missions, including search and rescue and visit/boarding/search
Security boats	588	Used for fleet protection, maritime interdiction, law enforcement operations, special operations, and others (riverine boats are included)
Ship's boats	114	Personnel and utility boats with some configured as gigs and barges (gigs are boats assigned to commanding officers and used for visiting ships or hosting dignitaries in an afloat setting)
Utility boats	271	Shore-based utility boats
Work boats	171	Tugboats and multipurpose work boats with a variety of applications, including cargo carrying and harbor cleaning
Other boats	200	Includes ferry boats, unmanned craft, training craft, and others
<b>Total</b>	<b>2,872</b>	

Source: GAO analysis of Navy data.

Navy small boats are military equipment and are centrally procured, managed, and tracked by Naval Sea Systems Command (Program Executive Office, Ships, Support Ships, Boats and Craft Program Office).<sup>6</sup> Naval Surface Warfare Center (Carderock Division, Detachment Norfolk, Combatant Craft Division) is responsible for boat inventory management and other activities, including boat allocation changes for certain activities.<sup>7</sup> A small boat may be assigned to and carried aboard a ship as

<sup>6</sup>See Naval Sea Systems Command, *Naval Ships' Technical Manual*, ch. 583, vol. 1 (Apr. 1, 2010).

<sup>7</sup>See *id.*

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a ship's boat. Also, small boats may be assigned to an expeditionary command, shore station, or fleet operating unit. Navy officials reported that currently the Navy has assigned small boats to over 320 separate commands and activities (e.g., Navy Expeditionary Combat Command). According to Chief of Naval Operations Instruction 4780.6E, these commands and activities are responsible for proper maintenance of their small boats and for establishing a boat maintenance program for them.<sup>8</sup>

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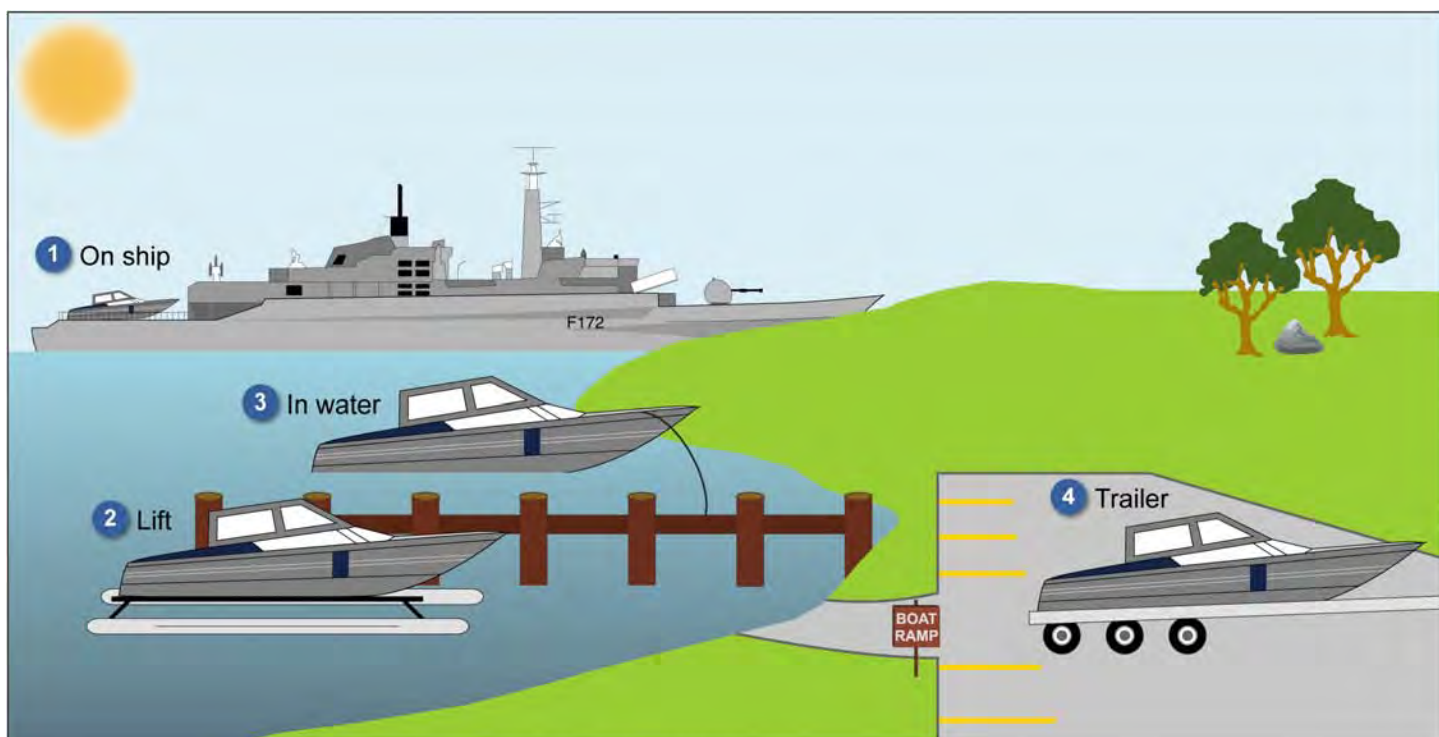
## Small Boat Storage and Harboring

The Navy utilizes several techniques to store and harbor small boats, including trailers and lifts. The Navy may use trailers, which can be purchased as an accessory to the boat and may allow for the boat to be kept out of the water and then launched back into the water via a boat ramp. According to the Navy, the use of trailers can also facilitate timely logistical movement. The Navy has over 1,800 boat trailers in stock. Another technique is to use boat lifts, which are designed to raise a boat out of the water to reduce the effects of the saltwater environment on the hull, appendages, and exposed machinery components. The Navy has 72 boat lifts in stock located at Navy installations around the world (e.g., Norfolk, Virginia; Pearl Harbor, Hawaii; and Bahrain). These lifts were acquired from fiscal year 2007 to fiscal year 2010 at a cost of about \$7 million. Small boats can also be stored in the water or on a ship. Figure 1 displays various techniques the Navy uses to store and harbor small boats.

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<sup>8</sup>See Office of the Chief of Naval Operations Instruction 4780.6E, *Policy for Administering Service Craft and Boats in the U.S. Navy*, § 5(b)(6) (Jan. 25, 2006).

Figure 1: Small Boat Storage and Harboring Techniques



Source: GAO analysis of DOD information.

## Navy Report Addressed Four of the Five Elements Specified in the House Report

The Navy report addressed four of the five elements specified in the House report, while partially addressing one of the five elements. Figure 2 identifies the five elements the House report directed the Navy to address and our assessment of the degree to which the Navy report addressed each of them.

**Figure 2: GAO Assessment of the Extent to Which the Navy Small Boat Report Addressed the House Report-Directed Elements**

Five directed elements	GAO assessment
Investigate the potential for reduced maintenance and repair costs of the Navy's small boat fleet through the use of advanced boat lifts as well as storage and harboring equipment.	●
Include an evaluation and business case analysis of the impact of these strategies for potential improvements to small boat acquisition costs and life-cycle sustainment.	◐
Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a key performance parameter for the selection of boat maintenance and storage equipment.	●
Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a key performance parameter for sustainment.	●
Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a requirement for the Naval Sea Systems Command to incorporate into its acquisition strategies prior to issuing a solicitation for procurement contracts.	●

● Addressed

◐ Partially addressed

Source: GAO analysis of Navy report.

The Navy report addressed the following elements:

- *Investigate the potential for reduced maintenance and repair costs for the Navy's small boat fleet by using advanced boat lifts:* The report discussed potential benefits associated with using boat lifts to remove boats from water during periods of nonuse. These potential benefits included reducing some types of corrosion and lowering maintenance costs by eliminating the need to remove the boat from the water for inspection.
- *Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a key performance parameter for the selection of boat maintenance and storage equipment:* The report did not recommend improved boat corrosion control and prevention as a key performance parameter for the

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selection of boat maintenance and storage equipment.<sup>9</sup> It noted that boat maintenance and storage equipment should be selected based on its potential benefit to corrosion control and prevention on boats and craft, but added that improved corrosion control and prevention will be hard to clearly define and measure, making them inappropriate for key performance parameters.

- *Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a key performance parameter for sustainment:* The report did not recommend improved boat corrosion control and prevention as a key performance parameter for sustainment. It stated that boat corrosion control and prevention is certainly an important aspect of sustainment; however, it is not sufficiently definable to be used as a key performance parameter. Specifically, the report noted that the boat corrosion and control prevention aspect of sustainment is not a stand-alone testable quantity; therefore it fails to meet an important criterion for a key performance parameter.
- *Include a recommendation regarding the potential establishment of improved boat corrosion control and prevention as a requirement for Naval Sea Systems Command to incorporate into its acquisition strategies:* The report stated that corrosion control and prevention are already a well-established part of the requirements used by Naval Sea Systems Command in its acquisition strategies for procurement contracts for small boats. It noted that corrosion control and planning are addressed through performance requirements, design requirements, and contractual requirements to the extent possible. A review of current fleet repair and maintenance procedures and records does not reflect a need for additional requirements, according to the Navy report.

The Navy report partially addressed the following element:

- *Include an evaluation and business case analysis of the impact of advanced boat lifts for potential improvements to small boat acquisition costs and life-cycle sustainment:* The report's business case analysis evaluated potential improvements to life-cycle

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<sup>9</sup>The Navy report defined key performance parameters as those attributes or characteristics of a system that are considered critical or essential to the development of an effective military capability and those attributes that make a significant contribution to the characteristics of the future joint force, as defined in the *Capstone Concept for Joint Operations*. Naval Sea Systems Command, *Report to Congress: Study on Small Boat Maintenance Costs* at 16 (October 2011).

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sustainment, focusing on potential maintenance cost savings associated with boat lifts. However, this business case analysis did not evaluate the impact of the use of advanced boat lifts on potential improvements to small boat acquisition costs. Navy officials told us that the use of advanced boat lifts would not significantly contribute to extending the service life of the boats or produce any other additional benefits that would lead to reduced small boat acquisition costs. This is primarily because a critical feature of current procurement strategies is to select, specify, or design boats that are made from corrosion-resistant materials and use components that are corrosion resistant. Nonetheless, the Navy did not include this justification in the report or analyze the potential effects of the use of boat lifts on small boat acquisition costs in the report's business case analysis.

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## Navy Would Benefit from More Comprehensive Information in Future Analyses

While the Navy completed a business case analysis of the impact of reduced maintenance and repair costs for the Navy's small boat fleet through the use of advanced boat lifts, we found several areas in which more complete information could have been included to better support the findings of the Navy study. Navy officials told us that they broadly used service experience and general guidance from the Naval Center for Cost Analysis to structure and execute the business case analysis. The Navy collected data from the existing boat inventory; maintenance procedures and practices, such as inspections; and maintenance actions to determine potential maintenance cost savings associated with boat lifts and compared them with data collected on lift installation and lift maintenance costs to determine the payback on a boat lift investment. The Navy assigned risk ranges to each data input and ran them through a software program that used Monte Carlo simulation techniques and ran 5,000 simulations.<sup>10</sup> Based on this analysis, the Navy concluded that it was unlikely that implementing boat lifts would provide a positive return on investment.

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<sup>10</sup>To address the uncertainties inherent in the analysis, the Navy used a commercially available risk analysis software program called Crystal Ball to incorporate uncertainties associated with the data. The program allowed the Navy to explore a wide range of possible values for all the input costs and assumptions it used to build its model. The Crystal Ball program uses a Monte Carlo simulation process, which repeatedly and randomly selects values for each input to the model from a distribution specified by the user. Using the selected values for cells in the spreadsheet, Crystal Ball then calculates the total cost of the scenario. By repeating the process in thousands of trials, Crystal Ball produces a range of estimated total costs for each scenario and the likelihood associated with any specific value in the range.

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The April 2011 *DOD Product Support Business Case Analysis Guidebook* presents a uniform methodology for developing accurate, consistent, and effective support of value-based decision making while better aligning the acquisition and life-cycle product support processes.<sup>11</sup> The guidebook provides standards for the DOD business case analysis process used to conduct analyses of costs, benefits, and risks. We identified several areas in which more comprehensive information, consistent with the DOD guidebook, could have been included in the business case analysis. For example:

- The Navy did not utilize discounting in the business case analysis and did not document its reasons for not doing so within the report or in additional documentation provided to us. The DOD guidebook indicates that as a general rule, discounting should be done unless there is a documented rationale not to discount. Discounting future benefits and costs using an appropriate discount rate illustrates the time value of money, as benefits and costs are worth more if they are experienced sooner. Discounting benefits and costs transforms gains and losses occurring in different time periods to a common unit of measurement.<sup>12</sup>
- The Navy did not include comprehensive data from Navy installations that are using 72 recently acquired boat lifts on (1) actual lift installation and maintenance cost data or (2) qualitative data on other potential costs and benefits associated with the use of boat lifts. Navy officials reported that they contacted one primary boat lift user command to gather a significant amount of data for the study and relied on boat lift vendors' estimates for lift cost and maintenance data. The DOD guidebook indicates that authoritative data sources—those used to conduct the financial and nonfinancial analysis for a business case analysis—should be comprehensive and accurate. Navy officials explained that because the way boat lifts are used and any benefits associated with their use are location and mission specific, qualitative data would be particularly valuable. For example, Navy officials told us that boat lifts may improve the operational availability of small boats at installations that have limited access to boat ramps that allow boat trailers to launch boats in the water.

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<sup>11</sup>Department of Defense, *DOD Product Support Business Case Analysis Guidebook*.

<sup>12</sup>Office of Management and Budget Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* at 4 (Oct. 29, 1992).

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Navy officials responsible for conducting the business case analysis were unaware of the *DOD Product Support Business Case Analysis Guidebook*, but acknowledged its applicability to their analysis. Navy officials recognized that more comprehensive information would have been useful, but noted that they were unable to systematically survey all current boat lift users within the few months they had to complete their business case analysis. Navy officials reported that including this information would likely not have changed the study's conclusions, as the analysis showed that the opportunity for a positive return on investment from implementing boat lifts for storage and harboring was so low.<sup>13</sup> Navy officials also noted that the business case analysis did not address other potential costs associated with the use of boat lifts, such as the cost of adding new pier space to accommodate boat lifts. Although a more comprehensive analysis may not reverse this study's conclusions, decision makers would benefit from collecting and including more complete information in future analyses, particularly when evaluating investment decisions at individual locations, such as using discounting and conducting comprehensive surveys of boat lift users to obtain all potential costs and benefits associated with implementing boat lifts. The Navy noted in its report that a significant number of boat lifts have recently entered service in the fleet and that the Navy will monitor service experience, data that may provide a basis for future decisions regarding the use of boat lifts. Without more complete information, the Navy may not be fully informed when it considers making future investments in boat lifts or other storage and harboring techniques at individual locations.

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## Conclusions

The Navy continues to rely on small boats to meet emerging fleet, antiterrorism, and force protection needs and support ongoing operations. While these boats vary widely in the missions they perform and the approaches for maintaining them, fiscal challenges require DOD to maximize its investment in small boats by reducing maintenance and repair costs where appropriate. Making informed decisions on effective and efficient small boat storage and harboring options will play a key role in doing so. While the Navy report addressed nearly all of the elements specified in House Report 112-78, additional information would better

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<sup>13</sup>For example, since usually the benefits of acquiring a boat lift are spread over a number of future years while the lift costs are primarily realized in year one, incorporating discounting into the business case analysis would reduce future benefits more while leaving cost essentially the same; thus it would not likely affect the study's conclusions.



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inform Navy decision makers. In particular, collecting and including more complete information—such as using discounting and conducting comprehensive surveys of boat lift users to obtain all potential costs and benefits associated with implementing boat lifts—would better inform the Navy when it considers making future investments in boat lifts or other storage and harboring techniques at individual locations.

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## Recommendation for Executive Action

To enable the Navy to make informed decisions when it considers making future investments in boat lifts or other storage and harboring techniques, we recommend that the Secretary of Defense direct the Secretary of the Navy to collect and include more complete information when evaluating investment decisions at individual locations, for example, by using discounting and conducting comprehensive surveys of boat lift users to obtain all potential costs and benefits associated with implementing boat lifts.

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## Agency Comments

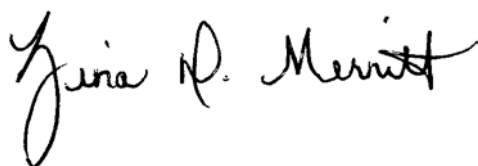
We provided a draft of this report to DOD for comment. DOD concurred with our recommendation to have the Secretary of Defense direct the Secretary of the Navy to collect and include more complete information when evaluating investment decisions at individual locations (DOD's comments are reprinted in app. III). DOD provided technical comments during the course of the engagement, and these were incorporated as appropriate.

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We are sending copies of this report to the Secretary of Defense, the Secretary of the Navy, and appropriate congressional committees. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

A handwritten signature in black ink, reading "Zina P. Merritt". The signature is written in a cursive style with a large, stylized "Z" and "M".

Zina Merritt  
Director  
Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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To determine the extent to which the Navy's report addressed the House Armed Services Committee's direction, we analyzed House Report 112-78 to identify each element of the committee's direction for the Navy report. We developed an evaluation tool based on House Report 112-78 to assess the extent to which the Navy's report addressed these elements. Using scorecard methodologies, two GAO analysts independently evaluated the Navy report against the elements specified in the House report. The analysts rated compliance for each element as "addressed," "partially addressed," or "not addressed." We considered the element to be addressed in the report when the Navy explicitly addressed all parts set forth in the element. We considered the element partially addressed in the report when the Navy addressed at least one or more parts of the element, but not all parts of the element. We considered the element not addressed by the Navy when the report did not explicitly address any part of the element. After the two analysts had completed their independent analyses, they compared the two sets of observations and discussed and reconciled any differences. The final assessment reflected our consensus. We also interviewed Navy subject matter experts to obtain additional information and corroborate the statements made in the Navy report, and we obtained the officials' opinions of our assessments. We interviewed officials from the Office of the Deputy Assistant Secretary of the Navy for Ships, Naval Sea Systems Command, and the Naval Surface Warfare Center.

To determine the extent to which the findings in the Navy's study are supported by the data and information examined, we reviewed the study and obtained information on the objectives, scope, and methodology officials used to conduct it. We evaluated the Navy study's business case analysis using criteria found in the *DOD Product Support Business Case Analysis Guidebook*, which provides standards for the Department of Defense's (DOD) business case analysis process as well as generally acceptable economic methodologies.<sup>1</sup> We reviewed the Navy's study to determine the extent to which the Navy incorporated elements of the DOD guidebook into the planning, design, and execution of the study. We also obtained and analyzed key data sources, such as maintenance cost savings inputs and boat lift cost data, for information included in the study. We interviewed Navy officials to obtain their views on key aspects

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<sup>1</sup>Department of Defense, *DOD Product Support Business Case Analysis Guidebook* (April 2011).

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of the study, findings and conclusions, and any limitations that may have affected the study's findings. We also interviewed officials responsible for procuring and maintaining Navy small boats, to determine the extent to which the Navy factored appropriate costs and benefits into the study's key assumptions and related findings. We assessed the reliability of the data we analyzed by reviewing existing documentation related to the data sources and interviewing knowledgeable agency officials about the data that we used. We found the data sufficiently reliable for the purpose of evaluating the planning, design, and execution of the Navy's business case analysis.

We conducted this performance audit from November 2011 to March 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Photographs of Selected Navy Small Boats

Figures 3 through 5 contain photographs of different types of Navy small boats in use.

**Figure 3: Riverine Command Boat**



Source: DOD.

**Figure 4: Rigid Inflatable Boat**



Source: DOD.

**Figure 5: Harbor Security Boat**



Source: DOD.

# Appendix III: Comments from the Department of Defense



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

MAR -6 2012

Ms. Zina Merritt  
Director, Acquisition and Sourcing Management  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Ms. Merritt:

This is the Department of Defense (DoD) response to the GAO-12-421, "NAVY SMALL BOATS: Maintenance Report Addressed Most Directed Elements, but Additional Information Needed," dated March 2012 (GAO Code 351689).

DoD has reviewed the report and concurs with the recommendation to have the Secretary of Defense direct the Secretary of the Navy to collect and include more complete information when evaluating investment decisions at individual locations. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

A handwritten signature in black ink, which appears to read "Daniel J. Dunne", is written over a circular stamp.

Daniel J. Dunne  
Director,  
DoD Corrosion Policy and Oversight

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Zina Merritt, (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, Carleen Bennett, Assistant Director; Tarik Carter; Joanne Landesman; Mehrzad Nadji; Terry Richardson; Mike Shaughnessy; Amie Steele; and Chris Watson made key contributions to the report.



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